



>>Entry Name: Tellurium

CAS Registry Number: 13494-80-9

Related CAS Registry Numbers(s): 10028-16-7 12597-49-8 15125-46-9 21474-65-7 50645-41-5 50645-42-6
Te

Molecular Formula: Te

Molecular Weight: 127.6

Accurate Mass: 129.906229

Percentage Composition: Te 100.00%

form. Network of spiral chains of Te atoms. Interatomic distance: Te-Te 283.5 pm; TeTeTe angle 103.2°

Source/Synthesis: Abundance in lithosphere $2 \times 10^{-7}\%$. Occurs native, but mainly as metallic tellurides. Isol. as a byproduct from electrolytic refining of Cu

Use/Importance: Commercially available. Used as a semiconductor. Metallurgical uses. Component of *Telloy*, used in rubber vulcanisation

Physical Description: Greyish-white cryst. with metallic lustre, or dark grey powder. Semiconductor. Poor conductor of heat. Brittle. Forms golden-yellow vapour. Red when colloidal

Melting Point: Mp 450°

Boiling Point: Bp 990°

Solubility: Insol. all solvs. with which it does not react

Other Data: Te vapour at high temp. contains Te₂, Te₃, Te₄ and Te₅ molecules

Hazard & Toxicity: V. toxic. Flammable

Aldrich: 20454-4

Fluka: 86360

Sigma: T2515

>>Variant: Tellurium 118

CAS Registry Number: 15125-46-9

Source/Synthesis: Prod. from Sb (d,5n), or proton bombardment of Sb

Other Data: $I = +0$. Decays by orbital electron capture to ¹¹⁸Sb

>>Variant: Tellurium 119

CAS Registry Number: 14914-67-1

Source/Synthesis: Prod. from Sb (p,3n), or ¹¹⁶Sn (α ,n)

Other Data: $I = +\frac{1}{2}$; $\mu = 0.25 \mu_N$. Decays by orbital electron capture or $\beta^{(+)}$ emission to ¹¹⁹Sb

>>Variant: Tellurium 119m

Source/Synthesis: Prod. from Sb (p,3n), ¹²¹Sb (d,4n), or ¹¹⁶Sn (α ,n)

Other Data: $I = -\frac{11}{2}$; $\mu = 0.89 \mu_N$. Decays by orbital electron capture or $\beta^{(+)}$ emission to ¹¹⁹Sb

>>Variant: Tellurium 120

CAS Registry Number: 15125-47-0

Other Data: $I = +0$

>>Variant: Tellurium 121

CAS Registry Number: 14304-79-1

Source/Synthesis: Prod. from Sb (d,2n), ¹²¹Sb (p,n), or ¹²⁰Te (n, γ). Daughter of ¹²¹I, also of ¹²¹Te (154 d)

Other Data: $I = +\frac{1}{2}$. Decays by orbital electron capture to ¹²¹Sb

>>Variant: Tellurium 121m

Source/Synthesis: Prod. from Sb (d,2n), ¹²¹Sb (p,n), or ¹²⁰Te (n, γ)

Other Data: $I = -\frac{11}{2}$. Decays by isomeric transition (89%) to ¹²¹Te, or orbital electron capture (11%) to ¹²¹Sb